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(54) **RAPID OVER-THE-AIR PRODUCTION LINE TEST PLATFORM**

(57) Provided is a rapid over-the-air (OTA) production line test platform, including a device under test (DUT), an antenna array and two reflecting plates. The DUT has a beamforming function. The antenna array is arranged opposite to the DUT, and emits beams with beamforming. Two reflecting plates are disposed opposite to each other, and are arranged between the DUT and the antenna array. The beam OTA test of the DUT is carried out by propagation of the beams between the antenna array, the DUT and the two reflecting plates. Accordingly, the test time can be greatly shortened and the cost of test can be effectively reduced. In addition to the above-mentioned rapid OTA production line test platform, platforms for performing the OTA production line test by using horn antenna arrays together with bending waveguides and using a 3D elliptic curve are also provided.

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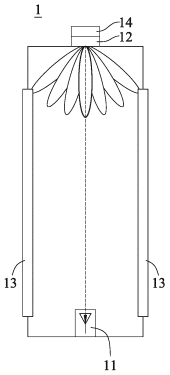

FIG. 3A

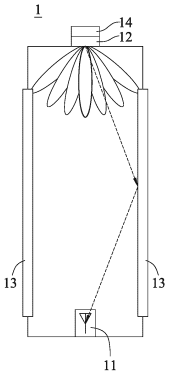

FIG. 3B

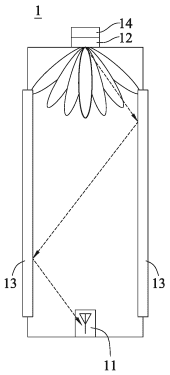

FIG. 3C

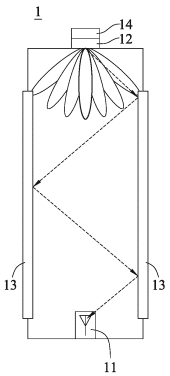

FIG. 3D

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EUROPEAN SEARCH REPORT

Application Number
EP 20 19 1147

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X Y A	US 2019/162780 A1 (DANZ JOACHIM [DE]) 30 May 2019 (2019-05-30) * paragraphs [0001], [0006] - paragraph [0015]; figures 1,2 * * paragraphs [0022], [0025], [0033], [0034] * * paragraph [0049] - paragraph [0057] * * paragraph [0060] - paragraph [0063] * * paragraphs [0067], [0070], [0071] - paragraph [0082] * -----	1,2,9-15 4-8 3	INV. G01R29/10 G01R31/302 G01R29/08 H01Q3/26 ADD. G01R31/311
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	16 April 2021	Hof, Klaus-Dieter

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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EUROPEAN SEARCH REPORT

Application Number
EP 20 19 1147

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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A	US 2011/128197 A1 (SAKATA TSUTOMU [JP] ET AL) 2 June 2011 (2011-06-02) * paragraph [0100] - paragraph [0114]; figures 10-12 *	4-8	
			TECHNICAL FIELDS SEARCHED (IPC)

The present search report has been drawn up for all claims

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Application Number
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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☒ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 20 19 1147

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-3, 14, 15

   the electromagnetic wave guiding device comprising two reflecting plates disposed opposite to each other

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2. claims: 4-8

   the electromagnetic wave guiding device comprising two horn antenna arrays and a plurality of bending waveguides connected between

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3. claims: 9-13

   the electromagnetic wave guiding device comprising a three dimensional elliptic curve reflecting the test beam from the antenna in a first focal point to the DUT at a second focal point

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 20 19 1147

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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16-04-2021

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